

HITACHI

Video Deck



VT-MX231A Owner's Manual

Your Complete Guide
to Videocassette Viewing
and Recording

Using these quality features:

- Bilingual on-screen menu display selectable in English or Spanish
- Infrared remote control
- Real time tape counter
- 181 channel capability PLL frequency synthesizer tuner with direct station call
- Digital Display
- Auto power on and off system
- Auto counter reset
- Auto rewind when the end of a tape is reached
- Direct Button Operation
- 2 Step Picture Search Operation
- Still (SLP)
- Digital Auto Tracking (DTR)
- Auto Repeat
- Rental Play Mode
- Three different tape speeds (SP/LP/SLP)
- IRT (Instant Recording Timer)
- 1 Year, 7 events (including Daily and Weekly Timer Recording)
- Auto Return

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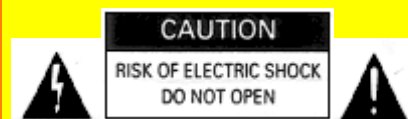
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WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.



THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

The caution marking is located on the rear of the cabinet.

IMPORTANT SAFEGUARDS

- 1. Read instructions**-All the safety and operating instructions should be read before the appliance is operated.
- 2. Retain Instructions**-The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings**-All warnings on the appliance and in the operating instructions should be adhered to.
- 4. Follow Instructions**-All operating and use instructions should be followed.
- 5. Cleaning**-Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

EXCEPTION: A product that is meant for uninterrupted service and, that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the appliance in the cleaning description otherwise required in item 5.

- 6. Attachments**-Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

- 7. Water and Moisture**-Do not use this video product near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

- 8. Accessories**-Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



- 9. Ventilation**-Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these opening must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug, or other similar surface. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

- 10. Power Sources**-This video product should be operated only from the type of power source indicated on the marking Label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

- 11. Grounding or Polarization**-This video product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

- 12. Power Cord Protection**-Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

- 13. Outdoor Antenna Grounding**-If an outside antenna or cable system is connected to the VCR, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. (Fig. A)

Antenna ground diagram.

- 14. Lightning**-For added protection for this VCR during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the VCR due to lightning and power-line surges.

- 15. Power Lines**-An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

- 16. Overloading**-Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock. Never spill liquid of any kind on the video product.

- 17. Object and Liquid Entry**-Never push objects of any kind into this video product through any openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

IMPORTANT SAFEGUARDS

18. Servicing-Do not attempt to service this VCR yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. Damage Requiring Service-Unplug this VCR from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the VCR.
- c. If the VCR has been exposed to rain or water.
- d. If the VCR does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the VCR to its normal operation.
- e. If the VCR has been dropped or damaged in any way.
- f. When the VCR exhibits a distinct change in performance-this indicates a need for service.

20. Replacement Parts-When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

21. Safety Check-Upon completion of any service or repairs to this VCR, ask the service technician to perform safety checks to determine that the VCR is in proper operating condition.

22. Heat-This VCR should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

PRECAUTIONS

PRECAUTIONS

LOCATION

For safe operation and satisfactory performance of your VCR, keep the following in mind when selecting a place for its installation:

- Shield it from direct sunlight and keep it away from sources of intense heat.
- Avoid dusty or humid places.
- Avoid places with insufficient ventilation for proper heat dissipation. Do not block the ventilation holes on the sides of the VCR.
- Install unit in a horizontal position.
- Avoid locations subject to strong vibration.
- Do not place the VCR near strong magnetic fields.
- Avoid moving VCR to locations where temperature differences are extreme.
- Do not place the VCR directly on top of the TV.

POWER SUPPLY

- AC 120V, 60Hz ONLY

AVOID THE HAZARDS OF ELECTRICAL SHOCK AND FIRE

- Do not handle the power cord with wet hands.
- Do not pull on the power cord when disconnecting it from AC wall outlet. Grasp it by the plug.
- If, by accident, water is spilled on your VCR, unplug the power cord immediately and take the unit to an Authorized Service Center for servicing.
- Do not put your fingers or objects into the VCR cassette holder.
- Do not place anything directly on top of the VCR.

WARNING

Moisture condensation may occur inside the unit when it is moved from a cold place to a warm place, or after heating a cold room or under conditions of high humidity. Do not use the VCR at least for 2 hours until its inside is dry.

FCC WARNING- This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

IMPORTANT COPYRIGHT INFORMATION

Unauthorized recording or use of broadcast television programming, video tape, film or other copyrighted material may violate applicable copyright laws. We assume no responsibility for the unauthorized duplication, use or other acts which infringe upon the rights of copyright owners.

WARNING: To prevent electric shock, match wide blade of plug to wide slot, fully insert plug.

The serial number of this product may be found on the back of the VCR. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft. Serial numbers are not kept on file.

Date of Purchase

Dealer Purchase from

Dealer Address

Dealer Phone No.

PRECAUTIONS

Model No.

Serial No.

FEATURES

- **Bilingual on-screen menu display selectable in English or Spanish**
- **Infrared remote control**
- **Real time tape counter-** This shows the elapsed recording or playback time in hours, minutes, and seconds. (Does not work in blank areas of the tape)
- **181 channel capability PLL frequency synthesizer tuner with direct station call-** (A converter may be necessary to view scrambled cable channels.)
- **Auto power on and off system-** Automatically turns the VCR on as you insert the cassette, turns off after auto-rewind, and ejects when the beginning of the tape is reached.
- **Auto counter reset-** (when inserting a tape)
- **Auto rewind when the end of a tape is reached-** (Does not occur when using the timer recording).
- **Direct Button Operation-** When a tape is in the VCR and the power is off, just press PLAY, REW or F.FWD button on the main unit and it will automatically turn on the VCR and perform the desired function. (Does not occur when using the timer recording).
- **2 Step Picture Search Operation-** You can view a video program at a high speed or super high speed in either a forward or reverse direction in LP and SLP mode.
- **Still-** "Freeze" the picture at any time, for close viewing of a particular scene. Only tapes recorded in SLP mode will show a fairly clear picture.
- **Digital Auto Tracking (DTR)-** Adjusts the tracking automatically for each tape you play.
- **Auto Repeat-** Allows you to repeat a tape indefinitely without pressing the PLAY button.
- **Rental Play Mode-** Improves playback picture quality of worn tapes, especially rental tapes.
- **Three different tape speeds: SP/LP/SLP**
- **IRT (Instant Recording Timer)-** Instant timed recording from 30 to 480 minutes possible at the push of the REC/IRT button.
- **1 Year, 7 events (including Daily and Weekly Timer Recording)-** The built-in timer allows you to record up to 7 programs at different times up to 1 year in advance. The daily timer allows recordings to be made of daily broadcasts, and the weekly timer allows recording to be made once a week up to the end of the tape.
- **Auto Return-** After timer recording is finished, you can return to the beginning of the recording.

VIDEO CASSETTE TAPE INFORMATION

This VCR will operate with any cassette that has the VHS mark. For best results, we recommend the use of high-quality tapes. Do not use poor quality or damaged tapes.

PRECAUTIONS

- Avoid moisture. Moisture condensation may occur on the tape if it is moved from a cold place to a warm place. Before using a tape with these conditions, to avoid damage of the tape and your VCR, wait until the tape has warmed to room temperature and the moisture has evaporated.
- Avoid extreme heat, high humidity and magnetic fields.
- Do not tamper with the cassette mechanism.
- Do not touch the tape with your fingers.

THREE DIFFERENT TAPE SPEEDS

Before recording, select the tape speed from: **SP mode** (Standard Play), **LP mode** (Long Play) or **SLP mode** (Super Long Play).

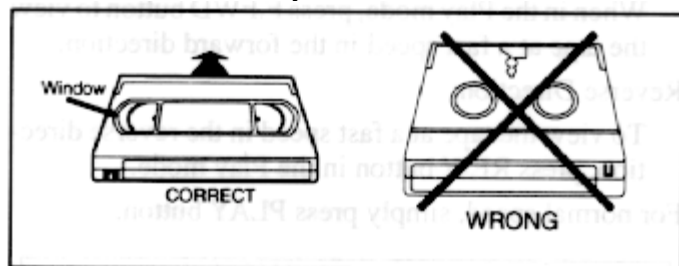
The table below shows the maximum recording/playback time using T60, T120, or T160 tapes in each mode.

Tape Speed	Recording/Playback Time			
	Type of tape	T60	T120	T160
SP mode	1 hour	2 hours	2-2/3 hours	
LP mode		2 hours	4 hours	5-1/3 hours
SLP mode		3 hours	6 hours	8 hours

INSERTING A CASSETTE

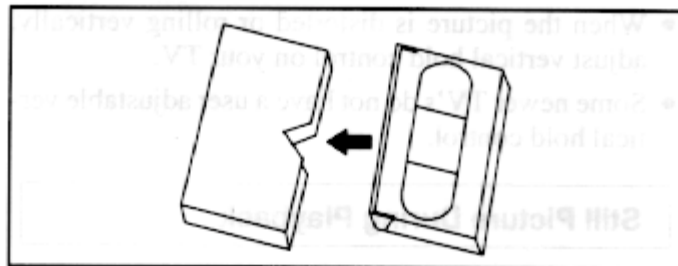
Insert the cassette in the direction as shown. Push in gently, but continuously, on the center-back of the cassette until it is drawn into the VCR.

The VCR will automatically turn on.



REMOVING A CASSETTE

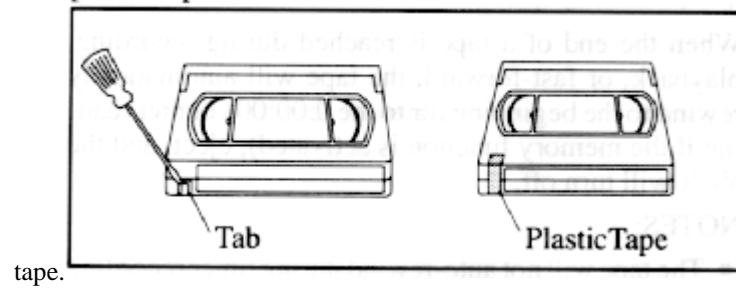
- 1) In the Stop mode, press STOP/EJECT button on the VCR. The cassette will eject.
- 2) Pull the cassette out of the cassette compartment.
- 3) Store the cassette in the case as shown.



ERASE PREVENTION

VIDEO CASSETTE TAPE INFORMATION

- You can prevent accidental erasing of recording by breaking off the tab on the back edge of the cassette.
- If you decide to record on the tape again, cover the hole with plastic



OPERATING CONTROLS AND FUNCTIONS

NOTES:

- Some controls are located on both the VCR and on the remote control, some are only located on one, some controls operate certain functions only in one location. See each description for details.
- We do not recommend the use of universal remote controls. Not all of the functions may be controlled with a universal remote control.

If you decide to use a universal remote control with this unit, please be aware that the code number given may not operate this unit. In this case, please call the manufacturer of the universal remote control.

click for image of the FRONT VIEW of VCR

click for image of –REMOTE CONTROL VIEW–

1. Cassette Compartment

2. STOP button- Press to stop the tape motion.

EJECT button- Press to remove a tape from the VCR.

▼ button- Press to enter digits when setting program (for example: setting clock or timer program). Press to select setting modes from on screen menu. (only on the remote control)

3. REW button- Press to rewind the tape, or to view the picture rapidly in reverse during the playback mode. (Rewind Search)

◀ button- Press to cancel a setting of timer program. Press to correct digits when setting program (For example: setting clock or timer program). Press to add or delete channel numbers during channel preset. (only on the remote control)

4. PLAY button- Press to begin playback.

▲ button- Press to enter digits when setting program (for example: setting clock or timer program). Press to select setting modes from on screen menu. (only on the remote control)

5. F.FWD button- Press to rapidly advance the tape, or view the picture rapidly in forward during playback. (Forward Search)

▶ button- When setting program (for example: setting clock or timer program), press to determine your selection and proceed to a next step you want to input. Press to determine setting modes from on screen menu. Press to add or delete channel numbers during channel preset. (only on the remote control)

6. PAUSE button- Press to temporarily stop the tape during recording or to view a still picture during playback. (only on the remote control)

7. POWER button- Press to turn VCR on and off. Press to activate timer recording.

8. VCR/TV button- Press to select TV or VCR mode. (only on the remote control)

VCR position: to view playback, to monitor video recordings or watch TV using the VCR tuner.

TV position: to watch TV or to view one program while recording another.

click for image of –REAR VIEW–

9. Remote sensor window- Receives the infrared signals from the remote control.

10. Digital display- See page 26.

11. SPEED button- Press to choose the desired recording speed: SP/LP/SLP. (only on the remote control)

12. CHANNEL (CH) ▲/▼ buttons- Press to select desired channels for viewing or recording.

TRACKING function- Press to minimize video 'noise' (lines or dots on screen) during playback. (only on the VCR)
Press to stabilize the picture in the Still mode when the picture begins to vibrate vertically.

13. REC button- Press to begin manual recording.

IRT button- Press to activate Instant Recording Timer. (only on the VCR)

14. NUMBER buttons- Press to select desired channels for viewing or recording. To select channels from 1 to 9, first press "0" button then 1 to 9. (only on the remote control)

+ 100 button- When selecting cable channels which are higher 99, press this button first, then press the last two digits. (To select channel 125, first press "+100" button then press "2" and "5"). (only on the remote control)

15. MENU button- Press to display the main menu on the TV screen. Press to exit the menus on the TV screen. (only on the remote control)

16. DISPLAY button- Press to display the counter or the current channel number and current time on the TV screen. (only on the remote control)

OPERATING CONTROLS AND FUNCTIONS

- 17. RENTAL SELECTOR button-** Press to set the Rental Play mode on and off during playback. (only on the remote control)
- 18. AUTO REPEAT button-** Press to repeat playback automatically. (only on the remote control)
- 19. CLOCK/COUNTER button-** Press to display or alternate between clock and counter on the TV screen. (only on the remote control)
- 20. COUNTER MEMORY button-** Press to set counter memory on and off. (only on the remote control)
- 21. COUNTER RESET button-** Press to reset counter to 0:00:00. (only on the remote control)
- 22. Power cord-** Connect to a standard AC outlet (120V/60Hz).
- 23. AUDIO OUT jack-** Connect to the audio input jack of your audio equipment or another VCR.
- 24. AUDIO IN jack-** Connect to the audio output jack of your audio equipment or another VCR.
- 25. ANT. IN terminal-** Connect to an antenna, Cable system or Satellite system.
- 26. VIDEO OUT jack-** Connect to a video input jack of your video camera or another VCR.
- 27. VIDEO IN jack-** Connect to a video output jack of your video camera or another VCR.
- 28. CH3/CH4 selector switch-** Use to select a video output channel (3 or 4) for playback from the VCR.
- 29. ANT. OUT terminal-** Connect to an antenna input terminal of your TV.

PREPARATION FOR USE

ANTENNA/CABLE CONNECTIONS

For some of the most common types of connections, please follow the drawings below. Use only one connection. For any further complex connections, please contact your local dealer or other qualified persons. (You may need additional accessories which are not supplied).

- 1 Disconnect the antenna or cable from your TV.
- 2 Connect the antenna or cable to the ANT.IN jack of your VCR.
- 3 Connect one end of the coaxial cable (supplied) to the ANT.OUT (Bottom jack) of your VCR.
- 4 Connect the other end of the coaxial cable (supplied) to the UHF/VHF antenna jack of your TV.

Fig. 1: Indoor Antenna

[click for image of indoor antenna hookup](#)

You can record one channel while viewing another. The same goes for Automatic Timer Recording and IRT. For details, please refer to "Recording" on page 20.

Note: The connection of an indoor antenna with a VCR may not always give acceptable TV reception.

Fig. 2: VHF/UHF Combination Antenna or Cable from the Cable Company

[click for image of VHF/UHF combination hookup](#)

You can record one channel while viewing another. The same goes for Automatic Timer Recording and IRT. For details, please refer to "Recording" on page 20.

Continued on next page.

Fig. 3: VHF/UHF Separate Antenna

[click for image of VHF/UHF separate antenna hookup](#)

You can record one channel while viewing another. The same goes for Automatic Timer Recording and IRT. For details, please refer to "Recording" on page 20.

Fig. 4: Cable Box and Satellite Box

[click for image of Cable and Satellite box hookup](#)

You can ONLY record and view the SAME channel when using this connection. There are no exceptions. The same goes for Automatic Timer Recording and IRT.

Note: Channel memory programming is NOT needed when using this connection.

RECORDING HINT

- 1) VCR power and the "VCR" indicator must be on.
- 2) Turn on the TV and Box.

PREPARATION FOR USE

- 3) Set the channel to be recorded on the Box.
- 4) Set the TV and VCR to channel 3 or 4.
- 5) Set the CH3/CH4 switch on the back of the VCR to match the channel set on the TV and VCR.
- 6) Press the RECORD button, or for AUTOMATIC TIMER RECORDING the VCR must stay on channel 3 or 4 at step [9] on page 23.

Continued on next page.

Some customers with cable boxes may record one channel and view another, with either one of the connections below.

Satellite systems: Neither one of these connection will work. For satellite owner wishing to record one channel and view another, please contact the manufacture of the satellite system.

Fig. 5:

[click for image of satellite hookup](#)

You can record a scrambled channel while viewing another.

RECORDING HINT:

- 1) VCR power and the "VCR" indicator must be on.
- 2) Turn on the TV and Box.
- 3) Set the channel to be recorded on the Box.
- 4) Set the TV and VCR to channel 3 or 4.
- 5) Set the CH3/CH4 switch on the back of the VCR to match the channel set on the TV and VCR.
- 6) Press the RECORD button, or for AUTOMATIC TIMER RECORDING the VCR must stay on channel 3 or 4 at step [9] on page 23.
- 7) Set the A-B switch to the other side, or for AUTOMATIC TIMER RECORDING set the A-B switch to the other side after step [12] on page 23.
- 8) Select the channel to be viewed on the TV.

Note: If you wish to see the VCR menu, view what you are recording or playing a tape with this connection, make sure the A-B switch is on the correct side.

Fig. 6:

[click for image of alternate satellite hookup](#)

This connection is good only if none of your channels are scrambled. You can record one channel while viewing another. Scrambled channels can not be recorded with this connection.

RECORDING HINT

- 1) VCR power and the "VCR" indicator must be on.
- 2) Turn on the TV and Box.
- 3) Set the channel to be recorded on the VCR.
- 4) Set the TV and VCR to channel 3 or 4.
- 5) Set the CH3/CH4 switch on the back of the VCR to match the channel set on the TV.
- 6) To view ONE channel while recording ANOTHER the "VCR" indicator must be off.
- 7) Or for AUTOMATIC TIMER RECORDING the "VCR" indicator must be off after step [11] on page 23.
- 8) Select the channel to be viewed on the Box.

Note: If you wish to see the VCR menu, view what you are recording or playing a tape with this connection, the "VCR" indicator must be on and the Box channel must match the channel selected on the back of the VCR. (CH3 or CH4)

Note to the CATV system installer

PREPARATION FOR USE

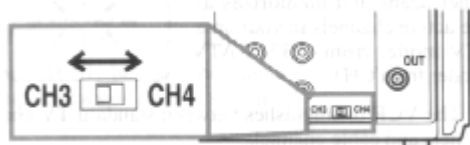
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

SETTING THE CH3/CH4 SWITCH

If your TV does not have A/V terminals;

When the VCR is in the Playback mode or when the VCR is in the VCR position, your TV will receive the signals from the VCR on either channel 3 or 4.

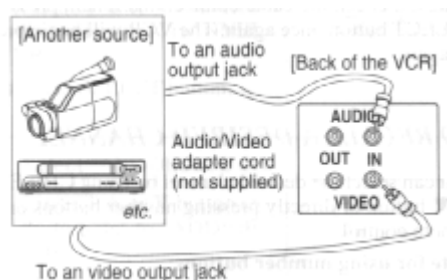
To use the VCR with your TV, set the selector switch to CH3 or CH4 (which is located in the back of your VCR), whichever is not used for normal broadcasts in your area. Then set your TV to that same channel.



CONNECTING TO INPUT JACKS

When you copy a video tape, or watch a program recorded on another source, use audio/video input jacks.

Fig. 7:



INPUT SELECT

- 1) The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
 - 2) Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.
 - 3) Connect the audio/video cables to the audio/video input jacks on the back of the VCR. Now connect the other end of the cables to the audio/video output jacks on the source.
 - 4) Press the CHANNEL (CH) ▲ or ▼ button to select "AUX", which will appear on the TV screen or "AU" on the digital display of the VCR.
- You may also select the "AUX" setting by pressing "00" with the number buttons on the remote control.

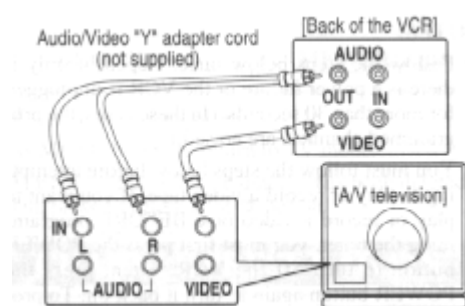
Note: "AUX" is found before the lowest memorized channel. (Example: CH2)

A/V TERMINALS

If your TV has A/V input jacks, you may connect your VCR's AUDIO/VIDEO OUTPUT jacks to the audio/video input jacks on back of your TV.

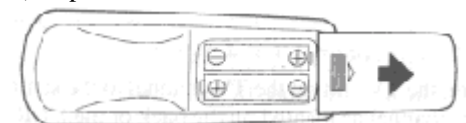
Direct audio/video connections usually result in a better picture and sound quality for tape playback. Please see your TV's owner's manual for A/V input connections.

Fig. 8:



INSTALLING THE BATTERIES

- 1) Open the battery compartment cover by pressing the cover on the remote unit in the direction of the arrow.
- 2) Insert 2 "AA" penlight batteries into the battery compartment in the direction indicated by the polarity (+/-) markings.
- 3) Replace the cover.



NOTES:

- Channel memory programming is **NOT** needed when connected to a cable box or satellite box as in Fig 4 on page 11 or Fig 5 on page 12. In this case with your remote, select the VCR to channel 3 or 4 the same channel as located on the back of VCR (CH3 or CH4). Then the channel you wish to record or view may be selected on the cable box or satellite box.
- Follow the steps below once. Repeat if only if there is a power failure or if the VCR is unplugged for more than 30 seconds. (In these cases, the programmed channels are erased.)
- You must follow the steps below attempting to play or record a video tape BEFORE programming the tuner, you must first turn off the VCR. Then, press the POWER button again to turn it back on. To program the tuner again, see "CHANNEL SET UP AGAIN" on page 16.

CHANNEL SET UP (Automatic)

1 Plug in the VCR power cord

Plug the VCR power cord into a standard AC outlet. The "- - : - -" indicator flashes on the display.



Remember: If your cable box or satellite is connected as in Fig 4 on page 11 or Fig 5 on page 12, you DO NOT have to set up the channels. Just select the TV and VCR to channel 3 or 4 and also have the CH3/CH4 switch on the back of the VCR to match the channel you selected (CH3 or CH4). Now select the Box to the channel you wish to view or record.

2 Select channel 3 or 4 on the TV

Turn on the TV and set the TV channel to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.

PREPARATION FOR USE



3 Turn on the VCR

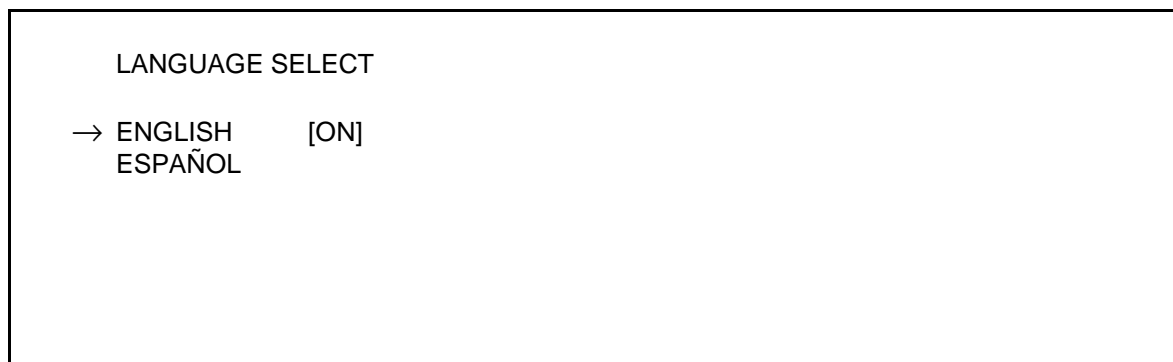
Press POWER button to turn on the VCR. Both the "PWR." indicator and the "VCR" indicator on the VCR come on.

- Use the remote control for this procedure.

4 Select "ENGLISH" or "ESPAÑOL"

Select "ENGLISH" or "ESPAÑOL"=Spanish using ▲/PLAY or ▼/STOP button.

Then, press MENU or F.FWD/▶ button.

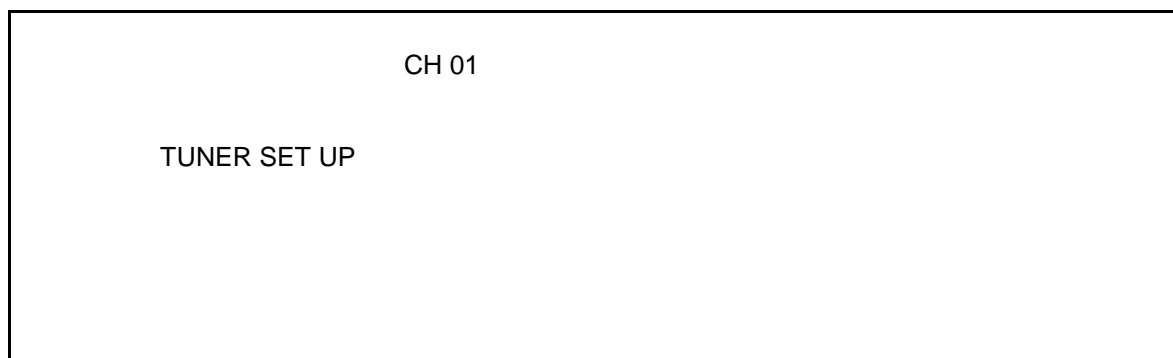


NOTE: This WILL NOT change the audio (sound) coming out of the VCR only the screen menu.

5 Begin channel preset

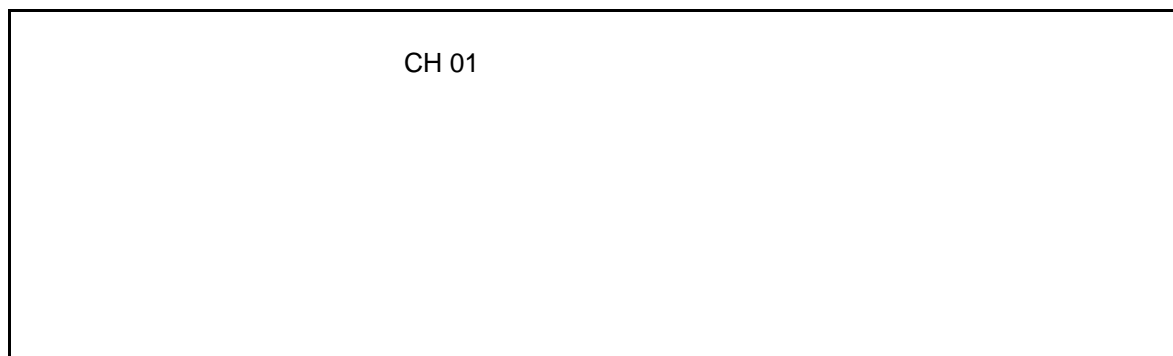
Press MENU, F.FWD/▶ or REW/◀ button once. The tuner scans and memorizes all the active channels in your area.

- The VCR distinguishes between standard TV channels and cable channels.



6 After scanning

The tuner stops on the lowest memorized channel. The TV screen returns to TV mode.



PREPARATION FOR USE

- If "TUNER SET UP" appears on the TV screen again, check the cable connections. Then, press MENU, F.FWD/▶ or REW/◀ button once again. The VCR will begin preset again.

TO SELECT A DESIRED CHANNEL

You can select the desired channel by using CHANNEL (CH) ▲ or ▼ button or directly pressing number buttons on the remote control.

Note for using number buttons:

- When selecting cable channels which are higher than 99, press +100 button first, then press the last two digits. (To select channel 125, first press "+100" button then press "2" and "5").
- You must precede single-digit channel numbers with a zero (For example: 02, 03, 04 and so on).

CLOCK SET UP

Set the clock accurately for proper automatic timer recording. We suggest that you use a TV or radio station as your time source.

In the example below, the clock is to be set to:

DATE March 1st, 1997
SETTING TIME 5:40PM

• Use the remote control for this procedure.

- When in the Menu mode the following buttons only work (PLAY/▶, F.FWD/▶, REW/◀, STOP/▼, RESET/EXIT, POWER and MENU). VCR power must be turned on.
- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.



1 Select "SETTING CLOCK"

Press MENU button. The SETTING CLOCK menu appears.

SETTING CLOCK			
MONTH	DAY	YEAR	
--	/ --	----	
HOUR	MINUTE	AM/PM	
--	: --	--	

- The number buttons on the remote control do not work in this Menu mode.
- When you press F.FWD/▶ button during steps [2] to [6], you may forward to next step.
- Press REW/◀ button to go back one step from current step during steps [3] to [7].

2 Select the month

Press ▲/PLAY or ▼/STOP button repeatedly until your desired month appears. (Example: March → 03)

Then, press F.FWD/▶ button.

PREPARATION FOR USE

SETTING CLOCK

MONTH DAY YEAR
03 / -- ----

HOUR MINUTE AM/PM
-- : -- --

3 Select the day

Press ▲/PLAY or ▼/STOP button repeatedly until your desired day appears. (Example: 1st → 01)

Then, press F.FWD/▶ button.

SETTING CLOCK

MONTH DAY YEAR
03 / 01 ----

HOUR MINUTE AM/PM
-- : -- --

4 Select the year

Press ▲/PLAY or ▼/STOP button repeatedly until your desired year appears. (Example: 1998)

Then, press F.FWD/▶ button.

SETTING CLOCK

MONTH DAY YEAR
03 / 01 1998

HOUR MINUTE AM/PM
-- : -- --

5 Select the hour

Press ▲/PLAY or ▼/STOP button repeatedly until your desired hour appears. (Example: 05)

Then, press F.FWD/▶ button.

SETTING CLOCK

MONTH DAY YEAR
03 / 01 SUN 1998

HOUR MINUTE AM/PM
05 : -- --

PREPARATION FOR USE

6 Select the minute

Press ▲/PLAY or ▼/STOP button repeatedly until the desired minute appears. (Example: 40)

Then, press F.FWD/▶ button.

SETTING CLOCK

MONTH DAY YEAR
03 / 01 SUN 1998

HOUR MINUTE AM/PM
05 : 40 - -

7 Select "AM" or "PM"

Press ▲/PLAY or ▼/STOP button repeatedly to point to "AM" or "PM". (Example: PM)

SETTING CLOCK

MONTH DAY YEAR
03 / 01 SUN 1998

HOUR MINUTE AM/PM
05 : 40 PM AM
→PM

8 Start the clock

Press RESET/EXIT or F.FWD/▶ button.

Although seconds are not displayed, they begin counting from 00 when you press RESET/EXIT or F.FWD/▶ button. Use this feature to synchronize the clock with the correct time.

- When unplugging the AC-cord or if there is a power failure for more than 30 seconds, you may have to reset clock.
- If the display shows an abnormal reading or no reading, unplug the power cord for more than 30 seconds. Then plug it back in. And reset clock.

TO CHANGE CLOCK SETTING

1) Press MENU button until the INITIALIZE menu appears.

2) Press ▲/PLAY or ▼/STOP button to point to "SETTING CLOCK". Then, press F.FWD/▶ button.

INITIALIZE

CHANNEL SET UP
→ SETTING CLOCK
LANGUAGE SELECT

PREPARATION FOR USE

3) Follow steps [2] to [8].

TO DELETE OR ADD CHANNELS

The channels you no longer receive or seldom watch can be deleted from the memory. (Of course, you can add the deleted channel into the memory again.)

- **Use the remote control for this procedure.**
- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.

1 Select "INITIALIZE"

Press MENU button repeatedly so that the INITIALIZE menu appears.

2 Select "CHANNEL SET UP"

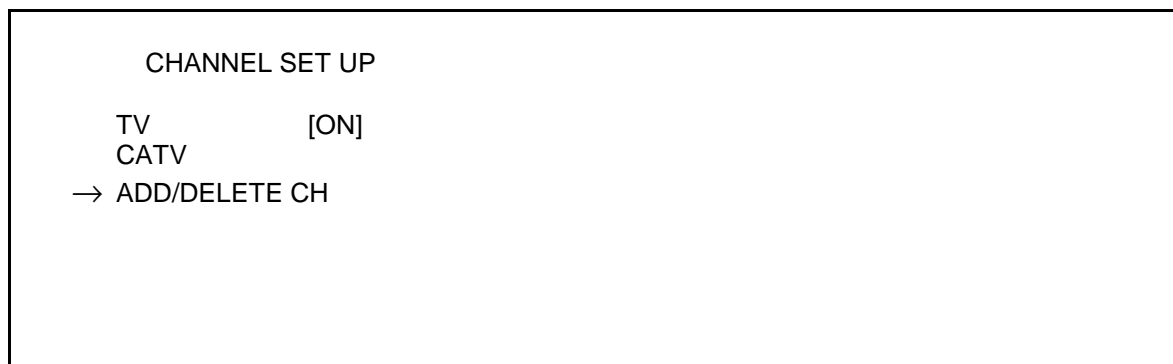
Confirm "CHANNEL SET UP" is pointed to then, press F.FWD/▶ button.



3 Select "ADD/DELETE CH"

Press ▲/PLAY or ▼/STOP button repeatedly to point to "ADD/DELETE CH".

Then, press F.FWD/▶ button.



4 Enter the desired channel number

Press the number buttons or ▲/PLAY or ▼/STOP button repeatedly until your desired channel number appears. (Example: CH02)

ADD/DELETE CH

02 (TV)

5 Delete it from memory

Press the F.FWD/▶ or REW/◀ button again, the channel is memorized again.

ADD/DELETE CH

02 (TV)

-DELETED-

- To delete another channel, repeat steps [4] and [5].
- If you press the the F.FWD/▶ or REW/◀ button again, the channel is memorized again.

ADD/DELETE CH

02 (TV)

-MEMORIZED-

6 Exit the preset mode

Press RESET/EXIT button to return to TV mode.

NOTE: To confirm that channel(s) has been deleted or added, press CHANNEL ▲ or ▼ button.

CHANNEL SET UP AGAIN

Remember: If your cable box or satellite box is connected as in Fig 4 on page 11 or Fig 5 on page 12, you DO NOT have to set up the channels. Just select the TV and VCR to channel 3 or 4 and also have the CH3/CH4 switch on the back of the VCR to match the channel you selected (CH3 or CH4). Now select the Box to the channel you wish to view or record.

PREPARATION FOR USE

- Use the remote control for this procedure.

- 1) Press MENU button repeatedly so that the INITIALIZE menu appears.
- 2) Confirm "CHANNEL SET UP" is pointed to then, press F.FWD/▶ button.
- 3) Confirm "AUTO TUNING" is pointed to, then press the F.FWD/▶ button. After scanning, the tuner stops at the lowest memorized channel.

- The VCR distinguishes between standard TV channels and cable channels.



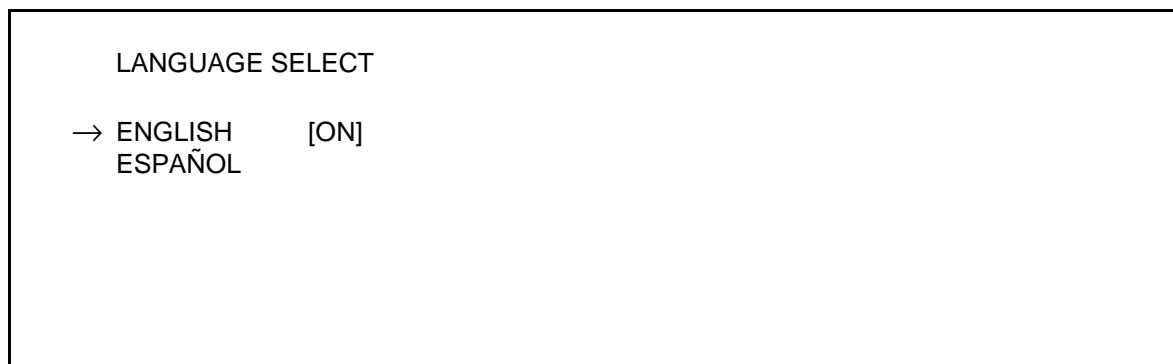
SELECTING THE LANGUAGE

If you want to change the language on the TV screen, follow the steps below:

Note: This feature WILL NOT change the audio (sound) coming out of the VCR only the screen menu.

- Use the remote control for this procedure.

- 1) Press MENU button repeatedly so that the INITIALIZE menu appears.
- 2) Press ▲/PLAY or ▼/STOP button repeatedly to point to "LANGUAGE SELECT". Then, press F.FWD/▶ button.
- 3) Select "ENGLISH" or "ESPAÑOL"=Spanish by using the ▲/PLAY or ▼/STOP button.



- 4) Press the RESET/EXIT button to return to TV mode.

NOTE: If for some reason the menu is in Spanish, press the MENU button until "PARA INICIAR" menu appears, press the ▲/PLAY button to point to "SELEC.IDIOMA", press the F.FWD/▶ button, press the ▲/PLAY button to point to "ENGLISH", then press the RESET/EXIT button.

PLAYBACK

NORMAL PLAYBACK

- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.

1 Insert a prerecorded tape

Counter mode appears at counter 0:00:00 on the TV screen. If the erase-protection tab has been removed, the VCR will start playback automatically.

2 To begin playback

Press PLAY button.



NOTE: If any menu is activated on the TV screen, the PLAY button on the remote control does not function. Press the RESET/EXIT button to clear the menu. Then, press PLAY button.

If a tape is already in the VCR with power off

2A) Using button on the VCR

Just press PLAY button on the VCR. Power will automatically turn on and playback will start. (Direct Button Operation)

2B) Using button on the remote control

Press POWER button to turn on, and then press PLAY button on the remote control.

3 To stop playback

Press STOP button.

PICTURE SEARCH

This feature is useful in finding or skipping over a particular scene on a tape. In this mode, the sound will be muted.

- 1) You may view a video tape at a high speed in either a forward or reverse direction by pressing F.FWD or REW button. (in the SP / LP / SLP modes)
- 2) Press it again, the VCR will now search in super high speed. (in the LP / SLP modes only)
- 3) Press PLAY button to return to normal speed.

STILL PICTURE

You can view a still picture on the screen during playback (the Still mode). Press the PAUSE button on the remote control during playback. Press PLAY button to return to playback.

NOTES:

- Usually there will be video "noise" lines (black and white streaks or dots) on the screen. This is normal.

If the tape was originally recorded in SP or LP mode, the still picture will, in addition to the "noise" lines, be black and white.

PLAYBACK

This is not a fault of the machine but merely a by-product of the technology involved in producing a 2 Head VCR with SP and LP mode.

- If it is left in the Still mode for more than five minutes, the VCR will automatically switch to the Stop mode.

NOISE CANCEL (in the Still mode)

This feature allows you to reposition or reduce the noise lines of a still picture.

Press PAUSE button repeatedly so that the noise lines change position on the screen and you can see the picture in its entirety without distracting noise lines.

NOTE: This feature can be activated ONLY when you use a tape recorded in the SLP mode.

VERTICAL HOLD CONTROL

In the Pause/Still mode only, when the picture begins to vibrate vertically, stabilize the picture by pressing CHANNEL ▲ or ▼ button.

NOTES:

- If there are video noise lines on the screen, reposition or reduce them. Refer to "NOISE CANCEL" on page 17.
- When the picture is distorted or rolling vertically, adjust vertical hold control on your TV.
- Some newer TV's do not have a user adjustable vertical hold.

TRACKING ADJUSTMENT

- Tracking adjustment will be set automatically (Digital Tracking function) when you start playback.
- However when playing pre-recorded tapes or tapes recorded on units other than your own, noise lines (black and white streaks) may appear on the playback picture. If this occurs, you can adjust the tracking control manually by pressing CHANNEL ▲ or ▼ button **on the VCR** until the streaks disappear.
- To return to the DTR function, stop the tape once and start playback again.

COUNTER MEMORY

Use this feature to memorize a beginning point that you want to return to. And you can search it easily by rewinding or fast forwarding.

- **Use the remote control for this procedure.**
- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.
- This feature only works with a prerecorded tape.

1 Stop the tape at your desired point

Insert a prerecorded tape. Rewind or fast forward the tape to the beginning point at which you want to mark.

2 Reset the counter to 0:00:00

Press the COUNTER RESET button on the remote control. If necessary press the COUNTER RESET button again to reset the counter to 0:00:00.

3 Select the Counter Memory mode

Press COUNTER MEMORY button on the remote control so that "M" appears on the TV screen.

PLAYBACK

M 0:00:00

- The COUNTER MEMORY button does not function if the Auto Repeat mode is set to [ON]. In this case, set the Auto Repeat mode to [OFF].

4 Begin recording or playback

Press REC or PLAY button.

Press STOP button when recording or playback is completed.

5 To activate the Counter Memory

Press the REW (or F.FWD) button, the VCR will stop automatically when the counter has returned to approximately 0:00:00

NOTE: The displayed time will not change during blank portions on the tape.

TO EXIT THE COUNTER MEMORY

Press COUNTER MEMORY button on the remote control so that the "M" *disappears* from the TV screen.

On more information concerning the on screen display, please refer to page 26.

• Use the remote control for the following procedure.

- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.

AUTO REPEAT PLAYBACK

The VCR has the auto repeat function that allows you to repeat a tape indefinitely without touching the PLAY button. Make sure to insert a prerecorded tape.

1 Select "VCR SET UP"

Press MENU button repeatedly so that the VCR SET UP menu appears.

2 Select "AUTO REPEAT"

Confirm "AUTO REPEAT" is pointed to.

VCR SET UP

→ AUTO REPEAT
RENTAL
AUTO RETURN

3 Begin Auto repeat playback

Press F.FWD/▶ button so that [ON] will appear next to "AUTO REPEAT" on the TV screen. When in Stop mode, Repeat playback will start automatically.

If the on-screen menu still remains, press the RESET/EXIT button to exit the menu.

PLAYBACK

- You may also select the Auto Repeat mode by pressing the AUTO REPEAT button on the remote control.
- Once you select the Auto Repeat mode, it stays in effect even after you turn off the VCR.
- The Counter Memory button does not function if the Auto Repeat mode is set to [ON]. In this case, set the Auto Repeat mode to [OFF].
- To stop playback, press STOP button.

TO EXIT THE AUTO REPEAT MODE

- Repeat steps [1] to [2] and press the F.FWD/▶ button. [ON] will then disappear from the menu. Then press RESET/EXIT button to return to TV mode.
- Or, press the AUTO REPEAT button again.

Power failure: If there is a power failure for more than 30 seconds, Auto Repeat Playback will go to off.

RENTAL PLAYBACK

This function enables you to improve the picture quality when playing back worn cassettes such as rented tapes.

- **Selecting ON or OFF must be done during playback.**

1 Insert rental tape into VCR

Begin playback.

2 Select "VCR SET UP"

Press MENU button repeatedly so that the VCR SET UP menu appears.

3 Select "RENTAL"

Press ▲/PLAY or ▼/STOP button repeatedly to point to "RENTAL".



4 Select "RENTAL" to [ON]

Press F.FWD/▶ button so that "RENTAL ON" appears.

- You may also set the Rental mode to ON or OFF by pressing the RENTAL SELECTOR button on the remote control **during playback**.
- Once you select the Rental mode, it stays in effect even after you turn off the VCR.
- To stop playback, press STOP button.

TO EXIT THE RENTAL PLAY MODE

- Repeat steps [1] to [3]. Then, press F.FWD/▶ button so that "RENTAL OFF" appears.
- Or, press the RENTAL SELECTOR button **during playback** so that "RENTAL OFF" appears on the TV screen.

Power failure: If there is a power failure for more than 30 seconds, Rental Playback will go to off.

RECORDING

- Please refer to the connection you are using, through pages 10, 11, or 12 on "ANTENNA/CABLE CONNECTIONS" before continuing.
- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.
- Insert a cassette tape with its erase prevention tab in place. (If necessary, rewind or fast forward the tape to the point at which you want to begin recording.)

VIEWING AND RECORDING THE SAME PROGRAM

1 Select the channel to be recorded

Press number buttons on the remote control or the CHANNEL ▲ or ▼ button.

NOTE: If you have a cable box or satellite box connected to this VCR, please refer to "ANTENNA/CABLE CONNECTIONS" on pages 11 and 12 before proceeding to the next step.

CH 32

2 Select the tape speed

Press the SPEED button on the remote control to select the desired tape speed (SP/LP/SLP).

SP

3 Begin recording

Press REC button. The "REC" indicator appears on the display.

REC

RECORDING

SP

NOTE: If any menu is activated on the TV screen, the REC button on the remote control does not function. Press RESET/EXIT button to clear the menu. Then, press REC button.

4 Stop recording

Press STOP button when recording is completed.

SKIPPING UNWANTED SCENES DURING RECORDING

Press PAUSE button to temporarily stop recording.

Press PAUSE or REC button to resume recording.

PAUSE



NOTE: When the VCR is in the Pause mode, you may view the time remaining with ■ marks on the TV screen. Each ■ mark represents one minute. After five minutes, the VCR will automatically switch to the Stop mode to prevent tape damage. When there is 1 minute remaining, one ■ will flash.

RECORDING ONE PROGRAM AND VIEWING ANOTHER

You can record one program while viewing another. To start recording, follow steps [1] to [3] under "VIEWING AND RECORDING THE SAME PROGRAM".

To select the channel you want to view at the TV, follow the steps below.

NOTE: If you have a cable box or satellite box connected to this VCR, please refer to "ANTENNA/CABLE CONNECTIONS" on pages 11 and 12 before proceeding to the next step.

4 Select the TV mode

Press VCR/TV button on the remote control so that the "VCR" indicator on the VCR's digital display *disappears*.

5 Select the channel on the TV

Set the TV to the channel you want to watch.

TO MONITOR THE PROGRESS OF YOUR RECORDING

1 Select the VCR mode

Press VCR/TV button on the remote control so that the "VCR" indicator appears on the display.

2 Select channel 3 or 4 on the TV

Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.

IRT (Instant Timer Recording)

This function enables you to set a recording length simply by pressing the REC/IRT button on the VCR.

- Please refer to the connection you are using, through pages 10, 11, or 12 on "ANTENNA/CABLE CONNECTIONS" before continuing.
- It is not possible to perform this function with the remote control.
- The "PWR." and the "VCR" indicator must appear on the VCR's digital display.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.
- Insert a cassette tape with its erase prevention tab in place. (If necessary, rewind or fast forward the tape to the point at which you want to begin recording.)

PUSH(ES)	DISPLAY	RECORDED LENGTH
1 push	(normal recording)	
2 pushes 0:30	30 minutes	
3 pushes 1:00	60 minutes	
↓	↓	↓
17 pushes	8:00	480 minutes
18 pushes	(normal recording)	

NOTE: If you have a cable box or satellite box connected to this VCR, please refer to "ANTENNA/CABLE CONNECTIONS" on pages 11 and 12 before proceeding to the next step.

1 Select the channel to be recorded

Press number buttons on the remote control or the CHANNEL ▼ or ▲ button.

2 Begin IRT

Press REC/IRT button on the VCR as many times as needed. The recording length will be determined by the number of times you press REC/IRT button.

Each additional push will increase the recording time by 30 minutes. It is set up to 8 hours.

IRT (1:30)

SP

- Recording starts immediately when the REC/IRT button is pressed, whether you are watching the same or a different channel.
- When REC/IRT button is pressed 18 times, the VCR returns to the normal recording mode.
- To stop the IRT operation, press STOP button on the VCR or on the remote control.
- To show the remaining time, press DISPLAY button on the remote control so that "IRT" appears on the TV screen. (It will show up momentarily then disappear.)
- Recording stops when 0:00 is reached.
- Please note that in the SLP mode maximum recording time, assuming the tape is started at the beginning, is 8 hours using T-160 (or 6 hours using T-120).
- The TV that is connected to your VCR may be turned on or off during IRT.
- If the tape runs out before the end time, the VCR will switch to the Stop mode immediately, eject the tape and the VCR power will be turned off.

TIMER RECORDING

AUTOMATIC TIMER RECORDING

You may set the VCR to start and end a recording while you are away. You can set seven programs to record on specific days, daily or weekly within a 1 year period.

In the example below, the timer is being set to record:

DATE: May 6th, 1998
 SETTING TIME: from 7:30PM to 8:30PM
 CHANNEL: CH16
 TAPE SPEED: SP
 PROGRAM NO: No. 1

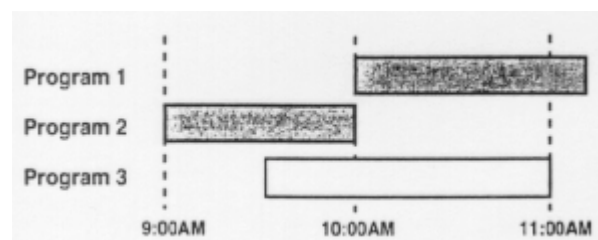
- Please refer to the connection you are using, through pages 10, 11, or 12 on "ANTENNA/CABLE CONNECTIONS" before continuing.
- Use the remote control for this procedure.
- The "PWR." and the "VCR" indicator must appear on the VCR's digital display to program it.
- Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.
- Clock must be set to the correct time and date before setting the timer.
- Insert a cassette tape with its erase prevention tab in place. (If necessary, rewind or fast forward the tape to the point at which you want to begin recording.)

Avoid overlap of programs...

There is a case that a program will not be performed.

When programs overlap:

- The program that the start time is set earliest has priority.
- Once the earlier program finishes, the overlapping programs will begin recording in sequence.
- The illustration below demonstrates the sequence of recordings.



1 Select "TIMER PROGRAMMING"

Press MENU button so that the TIMER PROGRAMMING menu appears.

TIMER PROGRAMMING

PROG 1 2 3 4 5 6 7
 DATE
 START TIME
 END TIME
 CHANNEL
 REC SPEED

NOTE: If you have not yet set the clock, "SETTING CLOCK" appears. If so, follow the steps [2] to [8] on page 15. Then, set the timer recording.

TIMER RECORDING

2 Select your desired program number (1 ~ 7)

Program number which is not set up flashes.

Press ▲/PLAY or ▼/STOP button repeatedly until your desired program number appears. (Example: 1)

Then, press F.FWD/▶ button.

```
PROGRAM NUMBER  1
DATE            -- / --
START TIME      -- : -- --
END TIME        -- : -- --
CHANNEL         --
REC SPEED       --
```

3 Select once, daily or weekly recording

For once recording:

Press ▲/PLAY or ▼/STOP button repeatedly to point to "ONCE". Then, press F.FWD/▶ button.

```
PROGRAM NUMBER  1

→ ONCE
  DAILY
  WEEKLY
```

For daily recording: To record a TV program at the same time on the same channel every day. (Example: Monday through Sunday)

Press ▲/PLAY or ▼/STOP button repeatedly to point to "DAILY". Then, press F.FWD/▶ button.

```
PROGRAM NUMBER  1

  ONCE
→ DAILY
  WEEKLY
```

For weekly recording: To record a TV program at the same time on the same channel every week. (Example: every Monday on channel 7 at 5:00PM)

Press ▲/PLAY or ▼/STOP button repeatedly to point to "WEEKLY". Then, press F.FWD/▶ button.

PROGRAM NUMBER 1

ONCE
DAILY
→ WEEKLY

- When you press F.FWD/▶ button during steps [4] to [10], you may forward to next step.
- Press REW/◀ button to go back one step from current step during steps [2] to [10].

4 Set the date when you want to start

First, press ▲/PLAY or ▼/STOP button repeatedly until your desired month appears. (Example: "05" for May) Then, press F.FWD/▶ button.

Next, press ▲/PLAY or ▼/STOP button repeatedly until your desired day appears, and then press F.FWD/▶ button. (Example: "06" for 6th)

ONE TIME PROGRAM

DATE 05 / 06 WED
START TIME -- : -- --
END TIME -- : -- --
CHANNEL --
REC SPEED --

5 Set the start hour

Press ▲/PLAY or ▼/STOP button repeatedly until your desired hour appears. (Example: 07)

Then, press F.FWD/▶ button.

ONE TIME PROGRAM

DATE 05 / 06 WED
START TIME 07 : -- --
END TIME -- : -- --
CHANNEL --
REC SPEED --

6 Set the start minute

Press ▲/PLAY or ▼/STOP button repeatedly until your desired minute appears. (Example: 30) Then, press F.FWD/▶ button.

Next, press ▲/PLAY or ▼/STOP button to point to "AM" or "PM". (Example: PM) Then, press F.FWD/▶ button.

TIMER RECORDING

ONE TIME PROGRAM

DATE 05 / 06 WED
START TIME 07 : 30 PM
END TIME -- : -- --
CHANNEL --
REC SPEED --

AM
→ PM

7 Set the end hour

Press ▲/PLAY or ▼/STOP button repeatedly until your desired hour appears. (Example: 08)

Then, press F.FWD/▶ button.

ONE TIME PROGRAM

DATE 05 / 06 WED
START TIME 07 : 30 PM
END TIME 08 : -- --
CHANNEL --
REC SPEED --

AM
→ PM

8 Set the end minute

Press ▲/PLAY or ▼/STOP button repeatedly until your desired minute appears. (Example: 30) Then, press F.FWD/▶ button.

Next, press ▲/PLAY or ▼/STOP button to point to "AM" or "PM". (Example: PM) Then, press F.FWD/▶ button.

ONE TIME PROGRAM

DATE 05 / 06 WED
START TIME 07 : 30 PM
END TIME 08 : 30 PM
CHANNEL --
REC SPEED --

AM
→ PM

9 Set the channel number

Press ▲/PLAY or ▼/STOP button repeatedly until your desired channel number appears. (Example: 16)

Then, press F.FWD/▶ button.

ONE TIME PROGRAM

DATE 05 / 06 WED
START TIME 07 : 30 PM
END TIME 08 : 30 PM

TIMER RECORDING

CHANNEL	16
REC SPEED	--

• Remember refer to "ANTENNA/CABLE CONNECTIONS" on pages 11 and 12 if you have a cable box or satellite box before setting the channel number.

10 Set the tape speed

Press ▲/PLAY or ▼/STOP button repeatedly until your desired tape speed appears. (Example: SP)

ONE TIME PROGRAM

DATE	05 / 06	WED
START TIME	07 : 30	PM
END TIME	08 : 30	PM
CHANNEL	16	
REC SPEED	SP	
	→ SP	LP
	SLP	

11 Finish setting the program

Press F.FWD/▶ button. Program 1 is now completed.

- To set another program, repeat steps [2] to [11].
- Press RESET/EXIT button to return to original mode.

12 Set the timer

Press POWER button. The "☑" indicator appears on the VCR's digital display.



- Please see "HINTS FOR TIMER RECORDING" on page 24 for more information.

HINTS FOR TIMER RECORDING

- If there is a power failure or the VCR is unplugged for more than 30 seconds, the clock setting and all timer settings are lost.
- If the tape runs out before the end time, the VCR will switch to the Stop mode immediately, eject the tape and the VCR power will be turned off. The "☑" indicator will flash.
- If a tape is not inserted or the erase-protection tab is removed, the "☑" indicator flashes and timer recording cannot occur. Please insert a recordable tape.
- The TV that is connected to your VCR may be turned ON or OFF when the VCR is in the timer-record mode.

CORRECTING AN AUTOMATIC TIMER PROGRAM

- 1) Turn the power on.
- 2) Repeat steps [1] to [3] on page 22.
- 3) Go to the digit you want to change using the F.FWD/▶ button or REW/◀ button.
- 4) Enter correct numbers using ▲/PLAY or ▼/STOP button.
- 4) Press RESET/EXIT button to return to original mode.
- 5) Press the POWER button to return to timer stand-by mode.

STOPPING A STARTED AN AUTOMATIC TIMER PROGRAM

TIMER RECORDING

Press STOP/EJECT button on the VCR.

NOTE: The STOP button on the remote control will not function in the Automatic Timer Recording mode.

CANCELING OR CHECKING THE START/END TIME

- 1) Turn the power on.
 - 2) Press MENU button.
 - 3) Select a program number you want to check using ▲/PLAY or ▼/STOP button. The details of selected program appears on the TV screen.
- You may cancel the entire program by pressing REW/◀ button.
- 4) Press RESET/EXIT button to return to original mode.

AUTO RETURN

If you choose auto return to [AUTO] from the menu, when all the timer recordings finish, the VCR will rewind to the beginning of the recorded programs(s).

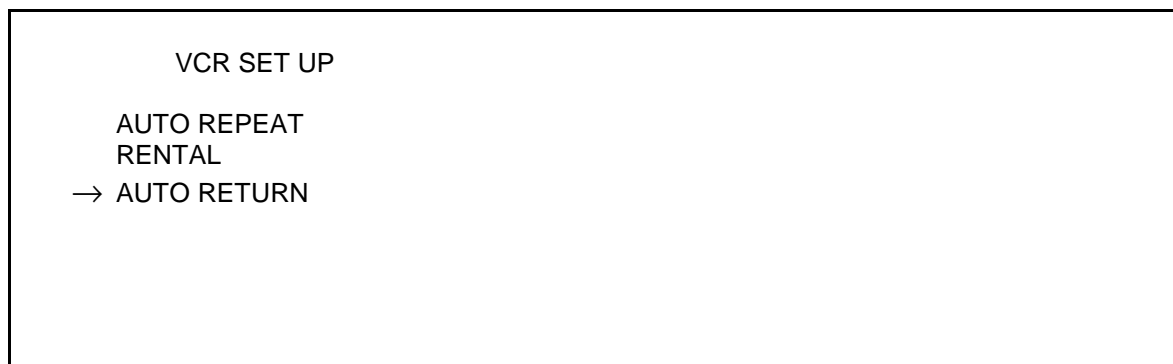
Make sure...If there are any remaining programs Once, Daily & Weekly, this function will not occur.

1 Select "VCR SET UP"

Press MENU button repeatedly so that the VCR SET UP menu appears.

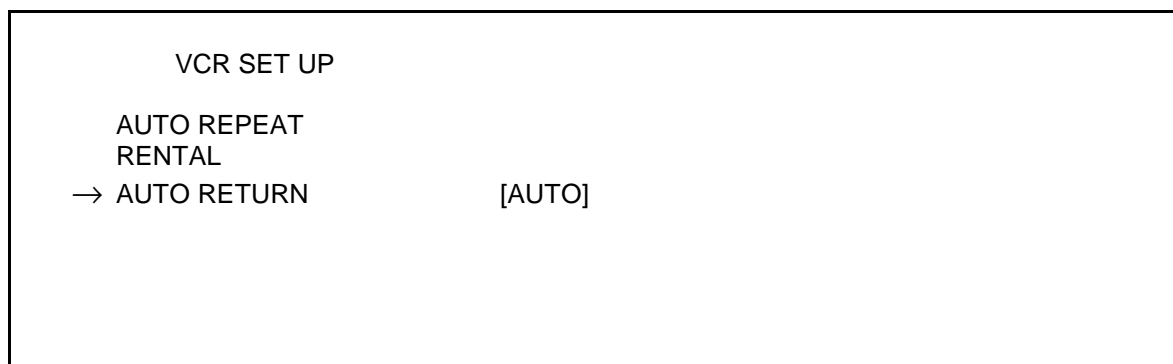
2 Select "AUTO RETURN"

Press ▲/PLAY or ▼/STOP button repeatedly to point to "AUTO RETURN".



3 Select "AUTO"


Press F.FWD/▶ button so that [AUTO] will appear next to "AUTO RETURN".



4 Exit the Auto Return mode

Press RESET/EXIT button to return to original mode.

TIMER RECORDING

NOTE: To exit the auto return programming, repeat steps [1] to [2]. Then, press F.FWD/  button. [AUTO] will then disappear from the menu. Press RESET/EXIT button to return to TV mode.

WATCH THE RECORDED PROGRAM

Press POWER button to turn on the VCR. Then, press PLAY button.

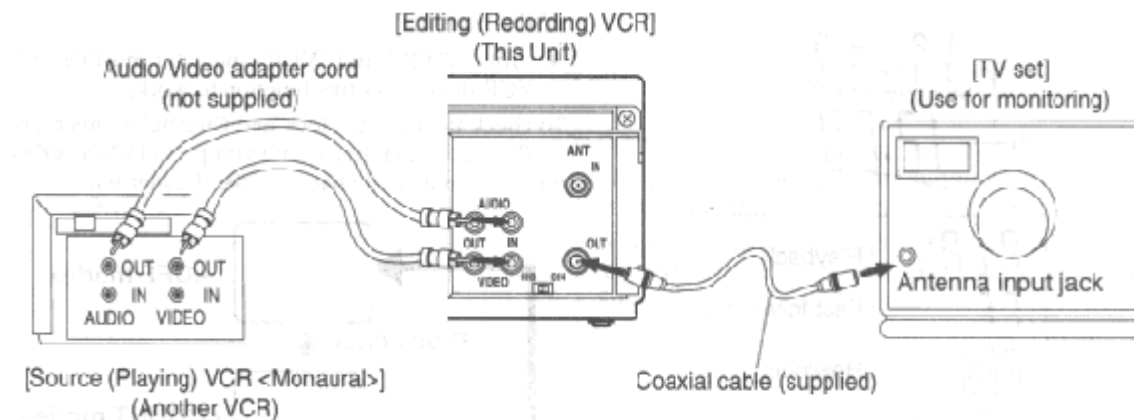
COPYING A VIDEO TAPE

You can make copies of video tapes made by friends or relatives for your enjoyment.

Warning: Unauthorized recordings of copyrighted video tapes may be an infringement of copyright laws.

Connect the editing (recording) VCR, source (playing) VCR and your TV using the following diagram.

Fig. 9:



- 1) Insert a pre-recorded video cassette into the source (playing) VCR.
- 2) Insert a blank video cassette, or one you want to record over, into the editing (recording) VCR cassette compartment.
- 3) Press TAPE SPEED button on the editing (recording) VCR to select the desired recording speed (SLP, LP or SP).
- 4) Select AUX position on the editing (recording) VCR. See page 13, under "Connecting to input jacks".
- 5) Press REC button on the editing (recording) VCR.
- 6) Begin playback of the tape in the source (playing) VCR.

- For best results during dubbing, use the VCR's front panel controls whenever possible. The remote control might affect the playback VCR's operation.
- Always use video-quality shielded cables with RCA-type connectors. Standard audio cables are not recommended.
- You can use a video disc player, satellite receiver, or other audio/video component with A/V outputs in place of the playback VCR.
- If video or color fades in and out you may be copying a copy guarded video tape.

TO MONITOR THE RECORDING

- 1) Turn on the TV and set the TV to channel 3 or 4. Now set the CH3/CH4 switch on the back of the VCR to match the channel selected on the TV.
- 2) Press VCR/TV button on the editing (recording) VCR so that the "VCR" indicator appears on the VCR's digital display.

ON SCREEN DISPLAY

NOTE: VCR power and the "VCR" indicator must be on.

- **To check the Count, Clock and Channel number**, press DISPLAY button. Each time you press DISPLAY button, TV screen will change as shown below.

click for image of display

- It is normal for the status display (STOP, PLAY etc.) and the tape speed display (SP,LP,SLP) to disappear after 5 seconds.
- **To check the Count, Clock and Channel number**, press the CLOCK/COUNTER button on the remote control.

DIGITAL DISPLAY

click for image of Digital Display

1. **PWR. (power) indicator**- Lights up when the power is turned on.
2. **☑ indicator**- Lights up when a timer recording has been set. Flashes if a tape is not inserted in the VCR even if you set a timer.
3. **Cassette indicator**- Lights up when there is a tape in the VCR.
4. **VCR indicator**- Indicates that the VCR is in VCR position.
5. **REC indicator**- Lights up when the VCR is in Recording mode. Flashes when a recording has been paused.
6. **Clock/Feature indicator**- Indicates the current time (when the clock is set), and briefly displays which feature the VCR is currently performing as the illustration. Indicates the channel number (when it is set).

SPECIAL FEATURES

REAL TIME TAPE COUNTER

- This shows the elapsed recording or playback time in hours, minutes, and seconds. (The displayed time will not change during blank portions on the tape.)
- The "-" indication will appear when the tape is rewound further than "0:00:00" on the tape counter.



AUTO REWIND

When the end of a tape is reached during recording, playback, or fast-forward, the tape will automatically rewind to the beginning. After that, the VCR will eject the tape and turn itself to off.

NOTES:

- The tape will not auto-rewind during timer recording or Instant Recording Timer.
- When the Counter Memory is activated, the tape will rewind to the M0:00:00 and the VCR will be in the Stop mode.

TROUBLESHOOTING GUIDE

If you have followed the instructions contained in this manual and have difficulty in operating your VCR, locate the PROBLEM in the left column below. Check the corresponding CORRECTIVE ACTION columns to remedy the problem.

PROBLEM	CORRECTIVE ACTION
No power.	<ul style="list-style-type: none"> • Make sure the AC cord is connected to an AC outlet • Make sure the power is turned on.
Timer recording is not possible.	<ul style="list-style-type: none"> • Make sure the timer recording is set correctly. • Make sure the power is off. • Make sure the VCR clock is set correctly.
Cannot go into Record mode.	<ul style="list-style-type: none"> • Make sure the tape has an erase-prevention tab. If needed, cover the hole with plastic tape.
Playback picture is partially noisy	<ul style="list-style-type: none"> • Adjust tracking control for a better picture by using the CHANNEL ▲ or ▼ button on the VCR.
No picture but the audio is OK in playback.	<ul style="list-style-type: none"> • Head cleaning may be necessary, consult our nearest Authorized Service Center.
No picture or poor picture on playback.	<ul style="list-style-type: none"> • Set your TV to the VCR mode and/or press the VCR/TV button on the remote control so that the "VCR" indicator appears on the display. • Fine tune your TV.
On-the-air TV program cannot be seen.	<ul style="list-style-type: none"> • Re-check the ANT. IN and ANT.OUT connections. See page 10. • Set your TV to the TV mode and/or press the VCR/TV button on the remote control so that the "VCR" indicator disappears from the display.
No operation from the infrared Remote Control	<ul style="list-style-type: none"> • Make sure the AC cord is connected to an AC outlet. • Check batteries in remote control
Video or color fades in and out when making a copy of a video tape.	<ul style="list-style-type: none"> • None. (You are copying a copyrighted tape and are experiencing copy guard protection.)

MAINTENANCE

SERVICING

Should your VCR become inoperative, do not try to correct the problem by yourself. There are no user-serviceable parts inside. Turn off, unplug the power cord, and take the unit to Hitachi Authorized Service Center for servicing.

CABINET CLEANING

- Wipe the front panel and other exterior surfaces of the VCR with a soft cloth immersed in lukewarm water and wrung dry.
- Never use a solvent or alcohol. Do not spray insecticide liquid near the VCR. Such chemicals may cause damage and discoloration to the exposed surfaces.

HEAD CLEANING

• Playback picture may become blurred or interrupted while the TV program reception is clear. Dirt accumulated on the video heads after long periods of use, or the usage of rental or worn tapes can cause this problem.

If a streaky or snowy picture appears during playback, the heads of your VCR may need to be cleaned.

1. Please visit your local Audio/Video store and purchase a good quality VHS Video Head Cleaner.
2. If a Video Head Cleaner does not solve the problem, consult the nearest Hitachi Authorized Service Center. Professional video head cleaning requires highly technical attention.

NOTES:

- Remember to read the instructions included with the head cleaner before use.
- Clean heads only when problems occur.

TECHNICAL SPECIFICATIONS

Format:	VHS
Video Signal System:	NTSC color EIA standard
Record/Playback System:	Video: 2 heads
Tape Speed:	33.35mm/sec (SP), 16.67mm/sec (LP), 11.12mm/sec (SLP)
RF Input:	UHF/VHF 75 ohm
Tuner:	181 channel tuning ability *(125 cable channels)
Type:	Auto programming frequency synthesis
Power Input:	AC120V 60Hz
Power Consumption:	16 W nominal
Cabinet Size:	14-1/4" (W) x 3-5/8" (H) x 9-1/16" (D) 36.0cm (W) x 9.2cm (H) x 23.0cm (D)
Weight:	5.51 lbs. (2.5 kg) (approx.)
Storage Temperature:	-4°F to 131°F
Operating Temperature:	41°F to 104°F
Accessories:	1 coaxial cable (Part No. 5857952), 1 remote control unit (Part No. HL11071), 2 AA batteries

* Check your cable company's compatibility requirements.

• Design and specifications subject to change without notice.

CABLE CHANNEL DESIGNATIONS

CABLE CHANNEL DESIGNATIONS

If you subscribe to cable TV, the channels are displayed as 1-125.

Cable companies often designate channels with letters or letter-number combinations. Please check with your local cable company. The following is a chart of common cable channel designations.

CATV channel	5A	2	3	4	5	6	7	8	9	10	11	12	13	A	B
TV Display	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CATV channel	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
TV Display	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CATV channel	R	S	T	U	V	W	W+1	W+2	W+3	W+4	W+5	W+6	W+7	W+8	W+9
TV Display	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CATV channel	W+10	W+11	W+12	W+13	W+14	W+15	W+16	W+17	W+18	W+19	W+20	W+21	W+22	W+23	W+24
TV Display	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CATV channel	W+25	W+26	W+27	W+28	W+29	W+30	W+31	W+32	W+33	W+34	W+35	W+36	W+37	W+38	W+39
TV Display	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
CATV channel	W+40	W+41	W+42	W+43	W+44	W+45	W+46	W+47	W+48	W+49	W+50	W+51	W+52	W+53	W+54
TV Display	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
CATV channel	W+55	W+56	W+57	W+58	A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	W+62	W+63	W+64
TV Display	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
CATV channel	W+65	W+66	W+67	W+68	W+69	W+70	W+71	W+72	W+73	W+74	W+75	W+76	W+77	W+78	W+79
TV Display	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
CATV channel	W+80	W+81	W+82	W+83	W+84										
TV Display	121	122	123	124	125										